

A Bibliometric Analysis on Teacher Mindfulness

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Abstract

With the surge in publications on mindfulness in recent years, there has been a significant increase in studies focusing on teacher mindfulness; thus, teacher mindfulness has emerged as an important research topic and a priority field of study. This bibliometric research employed science mapping tools to analyze Web of Science (WoS) indexed journal publications centered on teacher mindfulness. This review aims to trace the evolution of research in the field of teacher mindfulness over the past two decades. An examination of 165 publications revealed that interest in teacher mindfulness has grown substantially since 2016. The results also provide to the most influential scientists in the field, highlighting the authors' countries of origin, collaborative efforts between countries, and global co-reference networks. A keyword analysis was incorporated into the study to showcase current trends in teacher mindfulness research. Recommendations are provided to inform policy development on teacher mindfulness and to set a direction for future research.

Keywords: Mindfulness, Teacher, Teacher Mindfulness, Bibliometrics

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Introduction

Mindfulness has gained significant importance in recent years and has been extensively researched across various disciplinary fields, such as education (McCaw, 2020; Van Dam et al., 2018). Since many publications have been published on mindfulness in education, the study areas of the concept in education have expanded (Klingbeil et al., 2017). As a result of the growing interest in mindfulness in education, there has been a surge of meta-analysis and review studies aimed at investigating this topic. These studies have made significant contributions to the body of literature on mindfulness in education by collecting and compiling relevant publications in the field (Ergas & Hadar, 2019).

Owing to a significant surge in mindfulness-related publications in education, the concept of mindfulness has garnered attention in schools. Consequently, researchers have conducted research and published academic articles on this subject matter (Jennings et al., 2019). Numerous publications have become available that discuss the three primary populations within schools: principals (Klocko & Wells, 2016; Mahfouz, 2018), teachers (Gold et al., 2010), and students (Moreno-Gómez & Cejudo, 2019). These publications provide valuable insight and understanding of these important groups within the school setting. The publications mainly focus on student and teacher populations (Gold et al., 2010; Hwang et al., 2017; Moreno-Gómez & Cejudo, 2019). Due to the concentration of publications on students and teachers, many articles have been written in the field, and meta-analysis and review studies have emerged. A meta-analysis study on students found that mindfulness provided positive, minor, or moderate effects on cognitive flexibility, attention, emotion management, and handling problems internally or externally (Klingbeil et al., 2017).

Another population that mindfulness has been studied in schools is teachers. Teachers are the most important actors in implementing mindfulness in schools (Albrecht et al., 2012). This makes teachers an essential population in which mindfulness should be studied. Many studies about mindfulness have been conducted on teachers, and these studies have been collected in the form of meta-analyses and reviews due to their large number. Hwang et al. (2017) examined the effects of mindfulness on pre-service teachers and found that mindfulness had a significant effect on teacher well-being and performance. Zoogman et al. (2015) conducted a meta-analysis of mindfulness on teachers and found that mindfulness approaches reduce symptoms of psychological discomfort and anxiety in teachers. In a review study on teachers, Emerson et al. (2017) stated that mindfulness techniques reduce teachers' stress by improving their emotion management skills.

Due to the significant increase in teacher mindfulness publications, it has become increasingly challenging to develop a general perspective on the concept (Hwang et al., 2017). To create a broad perspective, reviews and meta-analyses have been conducted on teacher mindfulness; however, bibliometric studies have been absent. Bibliometric studies are an essential type of study that differs from review and meta-analysis studies because they provide critical predictions about the development of a field. Bibliometric studies are considered a comprehensive method that takes literature reviews further while avoiding delving into individual academic studies' intricate details, theoretical foundations, or methodological orientations (Kuzhabekova et al., 2015). It provides a broad perspective and comprehensive information on the literature content, publication trends, collaboration networks, and scientific interactions (Zupic & Čater, 2015). Given that bibliometric studies have the potential to identify general trends and gaps in the literature on teacher mindfulness (Aria & Cuccurullo, 2017), the lack of bibliometric studies in this growing field can be considered a significant gap. Due to the increasing number of studies on teacher mindfulness (Emerson et al., 2017; Hwang et al., 2017), it is thought that following the developmental journey of this field will provide insights into teacher mindfulness, which is possible through bibliometric studies (Kuzhabekova et al., 2015).

This study aims to fill this gap by reviewing the literature on teacher mindfulness from a broad perspective. Contrary to the growth observed in the field of mindfulness on the teacher population in recent years (Emerson et al., 2017; Hwang et al., 2017; Zoogman et al., 2017), the bibliometric analysis approach is not popular, which distinguishes this study from other studies. Within the scope of this study, the Web of Science (WoS) database was chosen as the preferred database because it provides a broad cross-section of the scientific literature (Archambault et al., 2009). This study aims to comprehensively present the general trends and developments of research on teacher mindfulness through academic publications in the last two decades. Therefore, it focuses on an extensive collection

of scholarly publications to illustrate the general trends and developments in related research on mindfulness in the previous two decades. This research aims to address the following research questions:

Research Question 1: What is the distribution of mindfulness literature on the teacher population in the last two decades according to date, journals, and geography?

Research Question 2: What are the authorship patterns of mindfulness literature on the teacher population in the last two decades?

Research Question 3: What is the intellectual structure of the mindfulness literature on the teacher population in the last two decades?

Research Question 4: What is the conceptual structure of mindfulness literature on the teacher population in the last two decades?

Conceptual Framework

Mindfulness, school, and teacher

The concept of "mindfulness" can be traced back two thousand years to the teachings of Buddhism. It involves consciously being aware of the present moment and accepting it without judgment. The primary purpose of mindfulness in Eastern Buddhist thought is to instill compassion and wisdom within the individual, thereby unlocking their full potential (Williams et al., 2013). In contemporary times, the concept of mindfulness was adapted by Kabat-Zinn (1982) to the Western framework of understanding and was redefined as a coping mechanism for stress. Kabat-Zinn (1982) provided a secular grounding for mindfulness practice and transformed it into a science of psychology. In contemporary times, the concept of mindfulness has been dissociated from its religious origins and has been subjected to extensive research in psychology. The concept of mindfulness has been explained in different ways by different researchers in psychology; Brown and Ryan (2003) define mindfulness as a state in which the individual is aware of their ongoing experiences and actions, while Siegel et al. (2009) emphasize being aware of the internal and external factors of the present moment and accepting these factors without attaching value to them. Glomb et al. (2011) define mindfulness as a state of consciousness that arises from events and experiences in a person's life and involves high awareness and attention.

The rise in popularity of mindfulness practices has led to their increasing integration into Western society; as a result, there has been an expansion in their incorporation into educational frameworks. Globally, many education systems have begun recognizing mindfulness practices as important curricular content. As an example, Australia's Calm Kids program teaches students mindfulness skills through specialized workshops (Meditation Capsules, 2018). Similarly, the UK's Mindfulness in Schools Project offers pedagogical training by creating a mindfulness curriculum (Mindful Schools, 2018). In North America, the MindUP curriculum has been implemented in more than 150 educational institutions, and more than a thousand educators have been trained in the program (Wickelgren, 2012). As a result, many schools have transitioned to mindfulness-based curricula worldwide (Nisbet, 2019).

The inclusion of mindfulness in school curricula has also led to the adoption of mindfulness programs for teachers. It is seen that mindfulness programs for teachers, who have a vital role in implementing mindfulness in schools, provide multifaceted benefits. These benefits include self-efficacy, physical health (Galla et al., 2016), listening skills, empathy, focus (Vickery & Dorjee, 2016), professional motivation, and teacher-student communication (Flook et al., 2013). Mindfulness also has a feature that increases the regulation and expression of emotions in teachers (Jennings et al., 2017). Therefore, mindfulness is essential for improving teaching effectiveness and creating a positive organizational culture (Soloway, 2016). Mindfulness enriches the quality of the educational environment and corporate culture and strengthens the effectiveness of school management and pedagogical practices (Schonert-Reichl & Roeser, 2016). Therefore, regarding educational management, mindfulness is essential to teachers and educational institutions (Mahfouz, 2018).

These personal benefits that mindfulness provides to teachers also support teachers with mindfulness to "conducting the learning and teaching process effectively. "One of the significant competencies for teachers identified in the "General Teacher Professional Competencies" published by the Turkish Ministry of National Education (MoNE) is the ability to effectively "conduct the teaching and learning process (MoNE, 2017a). In this context, teachers can gain the competence of "conducting the learning and teaching process effectively" with the proven benefits of mindfulness (Flook et al., 2013; Greenberg & Harris, 2012; Jennings & Greenberg, 2009; Jennings et al., 2017; Vickery & Dorjee, 2016).

The skills that mindfulness provides teachers, such as strengthening student-teacher relationships and being more sensitive to students' needs, positively affect teachers' "conducting the teaching and learning process more effectively" (Greenberg & Harris, 2012; Jennings & Greenberg, 2009). At the same time, mindfulness practices enable teachers to "conduct the teaching-learning process effectively" as they improve teachers' focus and professional motivation (Vickery & Dorjee, 2016; Flook et al., 2013). In addition, mindfulness creates a more positive school culture by reducing teachers' stress and burnout levels. This makes teaching and learning more effective (Albrecht et al., 2012; Herman et al., 2018; Jennings & Greenberg, 2009; Manuel, 2003; Soloway, 2016). These individual benefits also increase the effectiveness of teaching and learning and make a significant contribution to the implementation of the sub-strategy "Increasing the Quality of Teachers' Personal and Professional Development Activities" within the scope of the "Teacher Strategy Document" (MoNE, 2017b).

Method

This study used bibliometric analysis, a quantitative evaluation of academic publications, to examine mindfulness in the teacher population (Pritchard, 1969). Bibliometric analyses have become one of the analyses that have been used in the field of educational sciences in recent years (Bedenlier et al., 2017; Esen et al., 2018; Gümüş et al., 2020; Hallinger & Kovačević, 2019; Kosmützky & Putty, 2016; Li et al., 2019). Bibliometric analysis successfully filters large volumes of bibliometric data while avoiding delving into individual academic studies' intricate details, theoretical foundations, or methodological orientations (Kuzhabekova et al., 2015). It, therefore, provides critical insights into the developmental journey of a research field. This developmental journey is indicated through various metrics such as time, author contributions, geographical origins, and intellectual structure, highlighted by co-citation and co-keyword analysis (Li et al., 2019; Zupic & Cater, 2015).

Review studies using bibliometric methodologies aim to provide a holistic perspective of relevant academic fields by focusing on the quantitative variables mentioned above (Fabregat-Aibar et al., 2019; Hallinger & Kovačević, 2019; Kuzhabekova et al., 2015). In the first stage of the bibliometric analysis, basic descriptive statistics were conducted to map the overall state of mindfulness research on the teacher population in terms of numerical and geographical distribution. In addition, specific bibliometric techniques such as co-citation and co-authorship analyses were applied to see patterns such as academic collaboration, authorship, and thematic cohesion (Zupic & Cater, 2015).

Identification of sources

The source identification process was carefully organized according to the PRISMA (Preferred Reporting Guidelines for Systematic Reviews and Meta-Analyses) guidelines (Moher et al., 2009). The database used in this context was Web of Science (WoS) due to its widespread academic reliability and frequent use in current review studies (Abdullah et al., 2014; Esen et al., 2018; Kuzhabekova et al., 2015). To maximize the comprehensiveness of the dataset, a keyword-centered search strategy was preferred instead of narrowly focusing on specific leading journals. Various combinations of keywords from the literature on mindfulness of the current teacher population shaped the initial search, and 209 documents were retrieved. After carefully reviewing and filtering, the dataset was reduced to 165 relevant academic articles. The search covers publications between October 2003 and October 2023. Within WoS, publications in the last 20 years between these dates were searched.

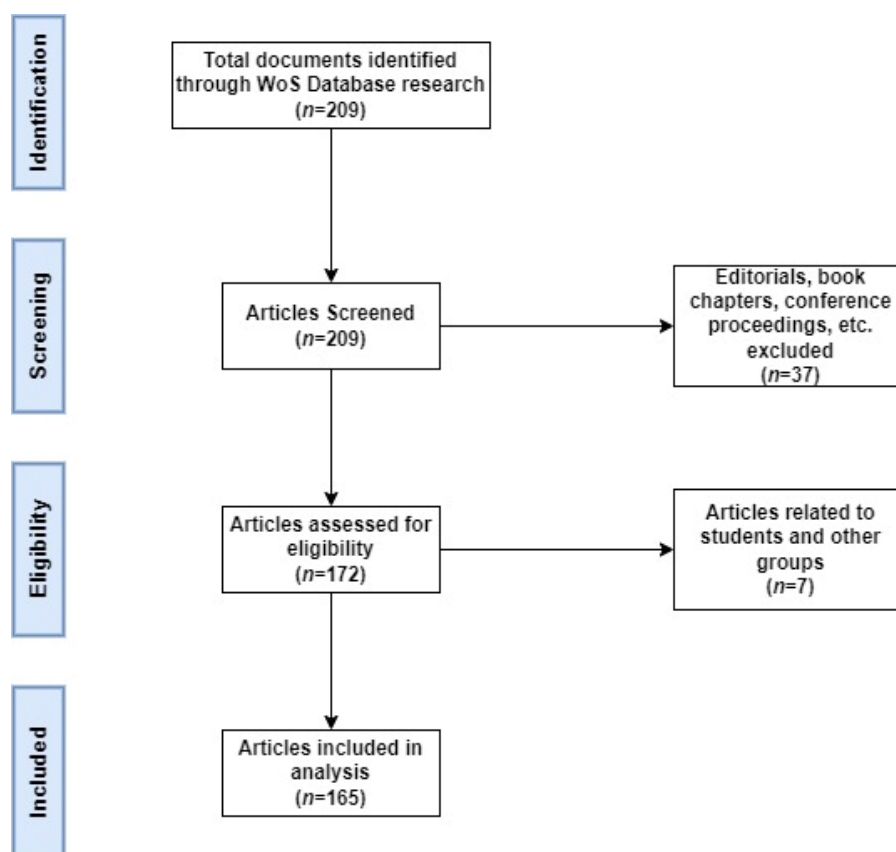


Figure 1. PRISMA diagram showing the process of review and inclusion of resources.

Data extraction and analysis

After selecting the relevant literature and identifying the articles to be included in the bibliometric study, the holistic data of 209 articles were downloaded from the Web of Science in plain.text format. This dataset includes authorship, institutional affiliations, abstracts, article titles, other bibliometric components, and citation metrics. After data collection, data cleaning and descriptive statistical analyses were performed. Attempts were made to combine synonyms, and attention was paid to non-research studies that may have arisen from these synonyms.

The VoSviewer application was used to conduct complex bibliometric assessments and to obtain a graphical representation of the findings. Initially, a co-authorship review was undertaken to identify standard authorship configurations within the field, with authors' countries as the primary analytical units. The collaborative analysis technique, often used to uncover existing intellectual clusters by identifying authors, publications, and documents that are cited repeatedly, was also applied (White & McCain, 1998). At this stage, the cited authors and relevant sources were examined within the research context to reveal the intellectual structure of the mindfulness literature on the teacher population (Zupic & Cater, 2015). Finally, a keyword occurrence review was conducted to identify the conceptual framework of mindfulness research on the teacher population (Mora-Valentín et al., 2018; Zupic & Cater, 2015)

Findings

This section presents the results of the bibliometric analysis conducted in the study. The findings are organized under three different headings and presented in seven forms. These figures mainly show the data focusing on the historical and geographical distribution of the studies on teacher mindfulness, as well as the results depicting the authors of the studies on the subject, the most cited sources, and the most cited academicians. Finally, within the scope of the findings, bibliometric mapping indicated the most repeated keywords in the studies, and the most used words in teacher mindfulness studies were identified.

The Volume, Growth Trajectory, and Geographic Distribution

After conducting a bibliometric analysis, the initial stage of the research involved determining the distribution of publications within a specific year range. Studies were not seen in the WoS database until 2007. After 2007, the studies may be an increase in the number of journals added to the WoS database in 2005 and an increase in recognition of mindfulness. As a result of the analysis, Figure 2 shows the distribution of teacher mindfulness studies according to years:

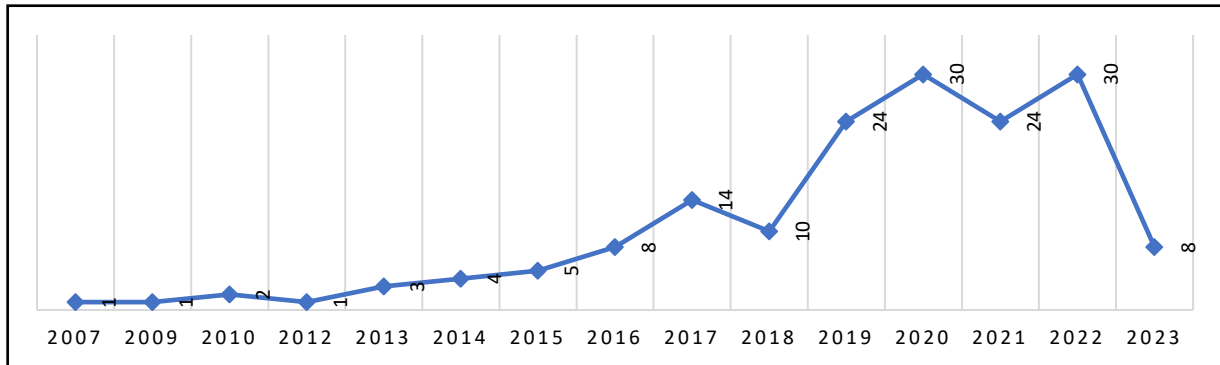


Figure 2. Number of articles published on teacher mindfulness by year.

Upon analyzing the publications, it is evident that the number of articles increased in 2016. This number reached higher figures in the following years. It is seen that the most studies were conducted in 2020 and 2022. After 2018, the number of studies doubled. If this momentum in the number of studies continues, it is estimated that teacher mindfulness studies will be conducted at a higher level. In addition to the years in which the studies were conducted, the journals in which the studies were published are also important. When the journals in which teacher mindfulness studies are conducted are examined, it is seen that journals such as *Mindfulness*, *Frontiers in Psychology*, *Teaching*, and *Teacher Education* stand out. Information on which journals teacher mindfulness studies are published more frequently is given in Figure 3.

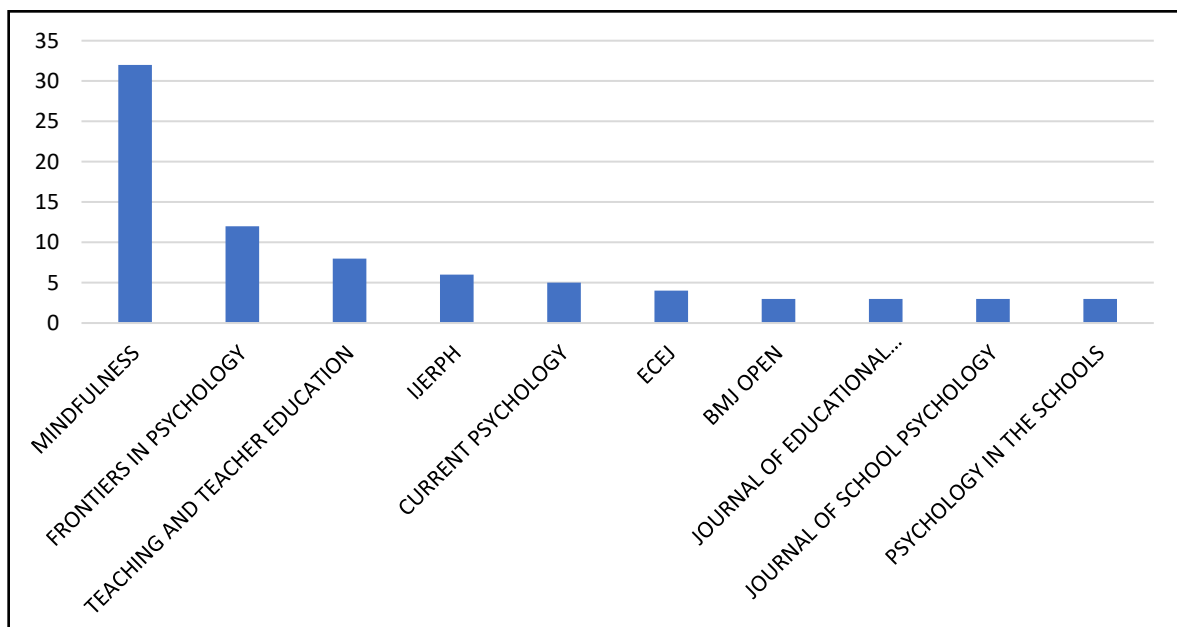


Figure 3. Teacher mindfulness articles by journals

When the journals in Figure 3 are examined, teacher mindfulness research is concentrated in journals on psychology. *Frontiers in Psychology* and *Current Psychology* are among the leading journals in the field. In addition, it can be stated that teacher mindfulness is also studied in journals such as the *Teaching and Teacher Education Journal of Educational Psychology*, whose publications are

generally on education and school. Teacher mindfulness studies are primarily found in *Mindfulness Journal* with 32 articles. The fact that the journal also has a special issue on mindfulness in schools has caused a sudden increase in the number of articles on teacher mindfulness. This journal is followed by *Frontiers in Psychology*, which has 12 articles. *Psychology in the Schools*, *Journal of School Psychology*, *Journal of Educational Psychology*, and *BMJ OPEN* are among the top 10 journals with the highest number of articles. The number of articles shows that the total number of teacher mindfulness articles ($n = 165$) is scattered among many journals and not concentrated under specific journals. In addition to examining the distribution among journals, it was also observed to what extent mindfulness studies on teachers were conducted across countries within the scope of the research. The results of these studies are given in Figure 4, the bibliometrics map. In the bibliographical analysis, it can be seen that most of the research was conducted in the USA. The second place where teacher mindfulness research is concentrated is China. Research at the intersection is centered in the UK. Research on mindfulness is remarkably diverse and forms different schools of thought. However, when the bibliometric map according to countries is examined, it is seen that the studies are not spread to a wide variety of countries and are incomplete in terms of national prevalence. Teacher mindfulness studies are primarily conducted in English-speaking countries.

Patterns of Authorsh

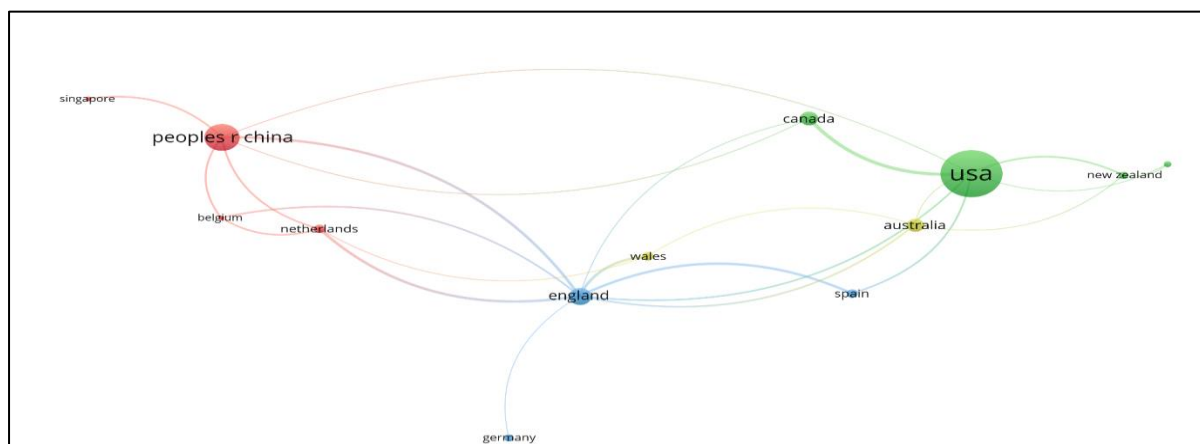


Figure 4. Co-author map by country (13 countries out of 30 with at least 2 publications are shown).

The bibliometric mapping method was used to identify author groups and co-authorship networks as part of the study. Figure 5 illustrates the co-author network that has contributed the most research on teacher mindfulness:

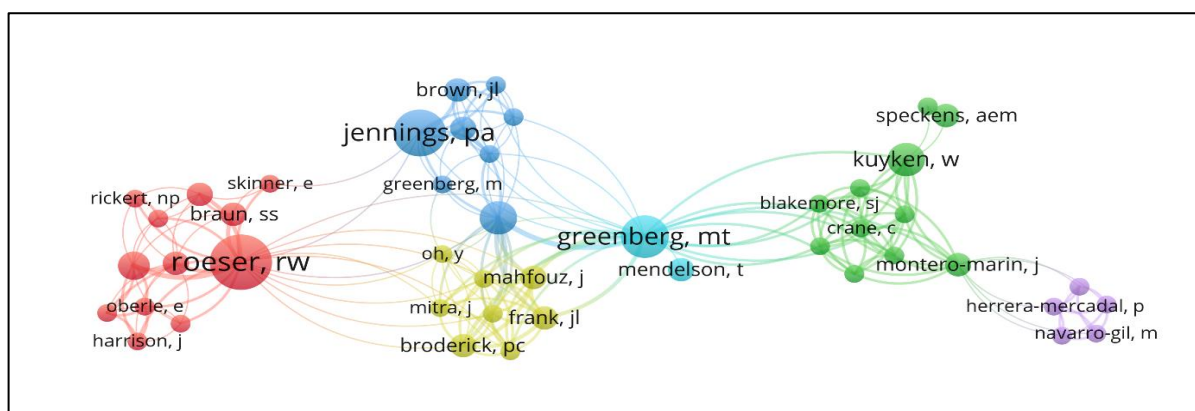


Figure 5. Co-authorship map of teacher mindfulness (46 authors who have published at least two articles among 532 authors are shown).

The diagram presented in Figure 5 appears to indicate a lack of notable diversity within the author networks. These author networks are composed of the authors who publish the most in the field. It can be seen that these authors are divided into six groups in total, and the authors in 4 different color groups are US-based academics. The groups of US-based academics are shown in Turquoise, Blue, Yellow, and Red. The academics in the green group are UK-based, and the purple group consists of Spanish-based co-authors. When these author groups are examined, it is seen that mindfulness studies on teachers are primarily focused on English-speaking countries.

Intellectual Structure of Teacher Mindfulness

One of the essential outputs of bibliometric analysis is that it provides an overview of the intellectual structure of the literature. It provides an overview of which sources and academics are most cited in the field of teacher mindfulness. At the same time, it gives clues about which sources academics researching this subject should look at in the future. In this context, co-citation analyses were also undertaken in the scope of bibliometric analysis.

In the first co-citation analysis, a mapping analysis was conducted to determine which academic publications are cited more. This analysis provides a scientific map of which journals are cited as sources. The study shows which academic journals receive more citations within the scope of mindfulness and maps which journals stand out in the field. In this context, the study of which journals are cited in the field is given in Figure 6:

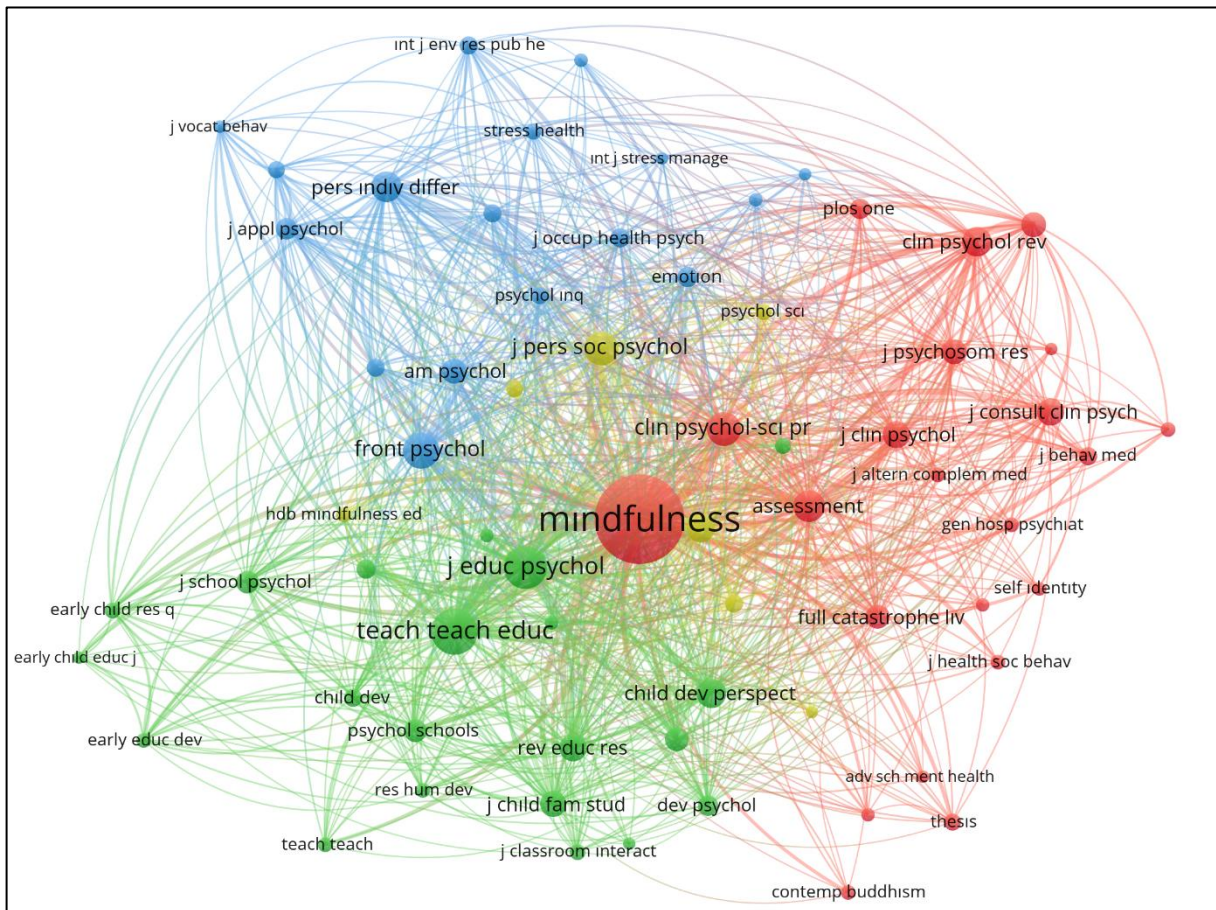


Figure 6. The co-citation map of the most cited sources on teacher mindfulness (67 journals with over 20 citations out of 3,236 are shown).

The bibliometric co-citation analysis in Figure 6 shows which journals are cited in particular. As well as showing the citations given to the journals, the details of which groups the journals are categorized into are also mapped. While the red journals fall within clinical psychology and psychology, the green journal group includes school psychology and education journals. These two journal groups are the most dominant in the literature. The blue journal group includes mostly general health and applied

psychology journals. The yellow journal group includes journals in the social psychology group. The most cited journals are the red group journals in clinical psychology and general psychology. This may be because mindfulness emerged based on psychology and developed in this field. The second journal group, the green group, is seen as educational and school psychology journals. This group of journals offers a vast academic network. This journal group also includes research on early childhood education. The blue group contains journals related to general health and stress. The journals in the yellow group have a minimal representation.

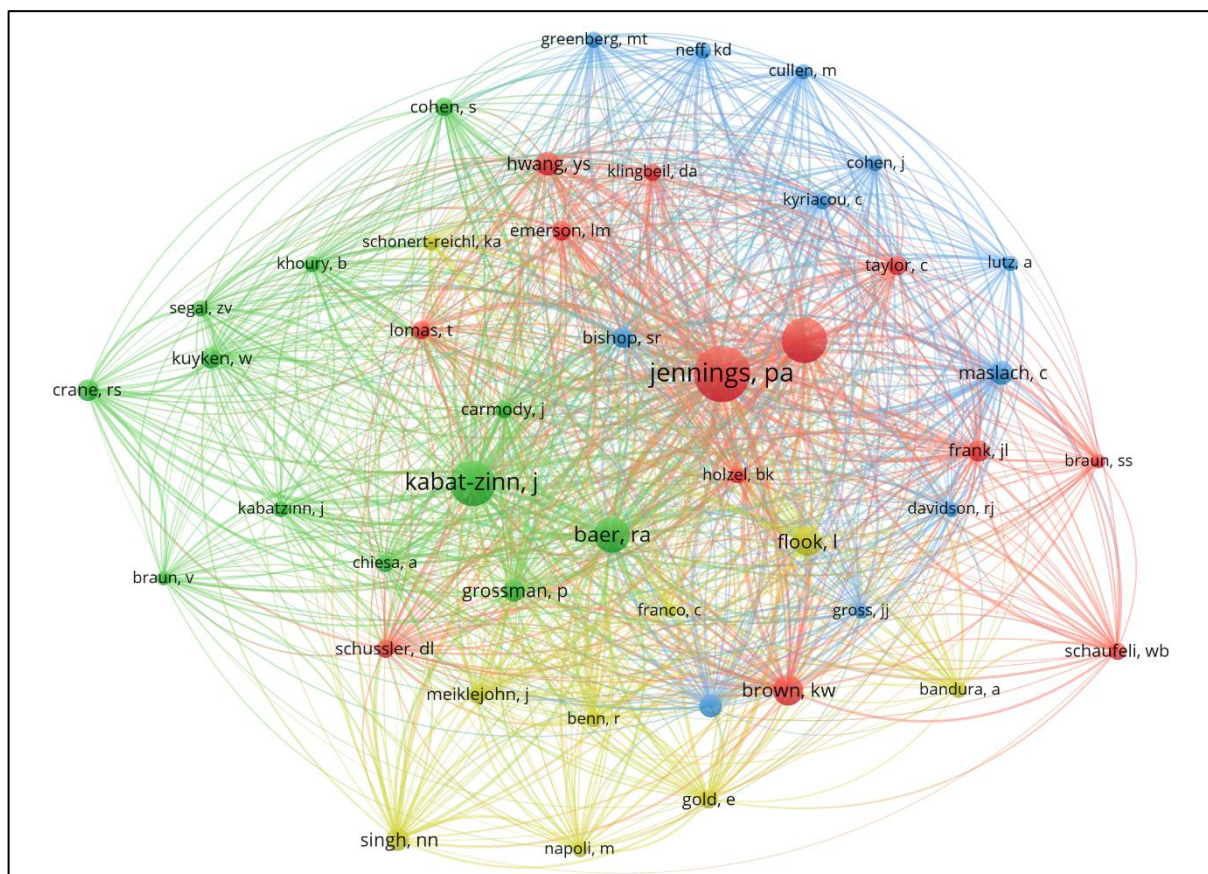


Figure 7. Co-citation map of the most cited authors on teacher mindfulness (45 authors with more than 20 citations out of 4571 are shown).

Within the scope of bibliometric analysis, bibliometric mapping of the most cited authors in teacher mindfulness research was conducted. In this analysis, the most cited authors in teacher mindfulness were extracted from bibliometric analysis and divided into groups. This bibliometric analysis is given in Figure 7. Figure 7 shows that the co-citation map about teacher mindfulness is divided into four main groups. In the green region, which occupies a large area on the map, academics such as *Kabat-Zin*, *Baer*, and *Grossman*, the authors of the basic mindfulness studies, are seen. Authors such as *Jennings*, *Schussler*, *Brown*, and *Hyang* have done mindfulness studies on education and schools in the red zone. Authors like *Napoli*, *Flook*, and *Meiklejohn* conduct mindfulness studies on teachers and students in the yellow zone. In the blue zone, authors such as *Maslach*, *Greenberg*, and *Cohen* have published on public health and mindfulness. Researchers who published on teacher mindfulness benefited from the sources written by these authors and mostly cited their publications.

Conceptual Structure of Teacher Mindfulness Literature

Finally, an analysis was conducted on the keywords used for teacher mindfulness. This analysis aims to reveal the most used and repeated keywords in the literature and map which words are associated with which word groups. In this context, Figure 8 shows which keywords are used the most in scientific articles published in journals.

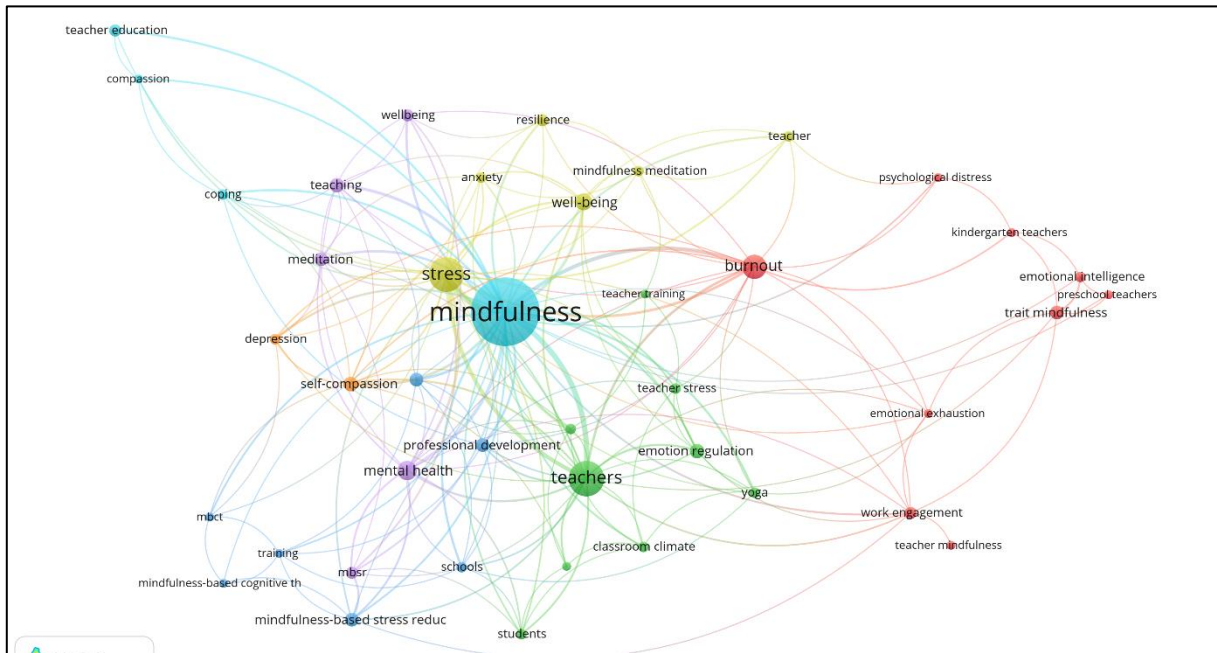


Figure 8. The most recurring common keyword map on teacher mindfulness (42 keywords repeated at least three times out of 436 were shown).

In Figure 8, the intersection point of all words is the keyword of *mindfulness*. The keyword of mindfulness was used the most in the articles. In the green zone, there are keywords related to school and teachers, such as *teachers*, *emotional regulation*, *teacher stress*, and *classroom climate*. Organizational behavior keywords such as *burnout*, *emotional exhaustion*, and *emotional intelligence* are in the red region. On the other hand, in the yellow part of the map, there are concepts such as *stress*, *well-being*, *anxiety*, and *resilience* on which mindfulness has a healing effect. These keywords, such as teachers' stress and well-being, are often used in studies. The concepts in the purple and blue groups are keywords usually found in mindfulness studies related to positive coping and mental health. In general, the key concepts have a network that focuses on the effects of mindfulness. They provide a view of how these effects reduce negative traits in teachers, increase positive characteristics, and impact the teacher environment and schools.

Discussion, Conclusion, and Suggestions

The main ideas that emerged in the light of the findings of the research should be explained and discussed. This study examined how mindfulness publications on teachers have evolved over the last two decades using various bibliometric analysis methods in the WoS database. Thus, the findings of the study are discussed. The study's findings show that teacher mindfulness research was not conducted in the WoS database until 2007, but research on teacher mindfulness started after 2007. Teacher mindfulness studies gradually increased after 2007, and research continued at a relatively limited level until 2016 but showed a significant increase in 2017. In recent years, it has gained rapid momentum. Especially after 2002, the rise in mindfulness studies throughout education has led to increased studies on teachers (Ergas & Hadar, 2019). Research has shown with scientific evidence that teachers get different benefits from mindfulness research. This may have led to increased studies in the field (Hwang et al., 2017).

Within the scope of mindfulness studies on teachers, it has been observed that *Mindfulness and Frontiers in Psychology* journals host most of the research in the field. In addition, it is seen that educational journals such as *Teaching and Teacher Education* frequently include teacher mindfulness publications. Mindfulness studies on education have led to a high increase in teacher mindfulness publications (Ergas & Hadar, 2019).

The bibliometric contribution analysis by country shows that the *USA*, *the UK*, and *China* are the leading countries in the teacher mindfulness literature. Other significant contributors include *Canada*, *Australia*, *Germany*, and *the Netherlands*. Collaboration patterns suggest that geographical and

political proximity is a determinant of networking. For example, *Canada and New Zealand* mainly cooperate with the *US*, while *Spain and Germany* cooperate with the *UK*. *China*, on the other hand, has a central role in connecting various networks. China has the same network as *Singapore, Belgium, and the Netherlands*. This structure, which shows unity from different geographies, significantly contributes to the literature on teacher mindfulness and draws attention to a separate structure that stands out in the field. The studies on the secularization of mindfulness in the literature and the resulting majority in the English-speaking literature have been demonstrated again with this analysis (McCaw, 2020). These countries also appear where mindfulness school programs are carried out (Meditation Capsules, 2018; Mindful Schools, 2018; Nisbet, 2019; Wickelgren, 2012). Our country's (*Turkey*) geography has yet to contribute significantly to the literature on mindfulness. It can be stated that the studies of Southeast Asian countries such as *Thailand and South Korea* are not prominent, and *Japan* does not have severe effects in the literature.

Our co-authorship analysis shows that there is no intensive research activity in the field of teacher mindfulness. While research activity is moderate, studies are generally concentrated among authors in the *USA*. Five hundred thirty-nine authors wrote the 165 articles in our dataset from 30 countries. This suggests that scholarly work in the field of mindfulness on the teacher population is shaped by the collective efforts of many scholars from different geographies and not just a few prominent authors; however, some scholars, especially from Western countries and more specifically from the *US*, have made significant contributions to the quantitative growth of research in this field. Our analysis of the research network and co-authorship shows that teacher mindfulness studies are authored by at most four groups of author clusters. The six authors in this analysis are from Europe and the *USA*. This shows that mindfulness research on the teacher population originates from the West. This is also evidence that teacher mindfulness studies and mindfulness studies in education are Western-oriented (Ergas & Hadar, 2019; McCaw, 2020).

The co-citation analyses we conducted to map the intellectual structure of teacher mindfulness revealed three main journal groups related to mindfulness. These journal groups are journals such as *Mindfulness, Journal of Clinical Psychology, and Clinical Psychology Review* within the scope of clinical psychology and general psychology. The fact that these journals and psychology-based journals are cited in teacher mindfulness research may be due to the development of mindfulness research based on psychology. After the concept was introduced to psychology, it gained momentum and increased the scope of research (Kabat-Zinn, 2017). The second most cited journal group in mindfulness research on the teacher population is the other journals related to education and psychology in the green group. These journals include journals focused on education, school, and psychology, such as *Teaching and Teacher Education, Journal of Educational Psychology, and Journal of School Psychology*. The increasing study area of mindfulness, especially in education (Sherretz, 2011), may have caused mindfulness works written on the teacher population to be cited in this group. The third leading group, the study journal group, is the group indicated as blue. This group's journals are related to emotions, stress, and general psychological health, such as *Frontiers in Psychology, Emotion, Stress, and Health*. Since this group of journals contains proven studies on various psychological and emotional well-being effects of mindfulness, these studies have been intensively included in mindfulness research on the teacher population (Biegel et al., 2009; Bränström et al., 2010; Foley et al., 2010; Glomb et al., 2011).

In the co-citation analysis of the authors to understand the intellectual structure of teacher mindfulness publications, it is seen that mindfulness research focuses on three main author groups. Among these author groups, *Kabat-Zinn, Baer, and Grossman*, indicated in green, are the authors who wrote the foundational works of mindfulness. These authors are the ones who published the first mindfulness works and contributed important scale studies to the mindfulness literature (Baer et al., 2004; Baer et al., 2008; Kabat-Zinn, 1982). In this context, this group is the most cited author group in mindfulness research on teachers. The red author group is seen as the group that writes mindfulness studies in schools. This group includes academics such as *Jennings, Schussler, Brown, and Hyang*. These authors have also been involved in critical qualitative and meta-analysis studies on mindfulness (Morales, 2018). The yellow group, which includes authors such as *Napoli, Flook, and Meiklejohn*, is

one of the most cited groups in mindfulness research on the teacher population. Academics in this group have also conducted mindfulness research on individuals in education.

Within the scope of keyword analysis in teacher mindfulness research, conceptual mapping was attempted by identifying the most recurring keywords. Within the scope of this conceptual mapping and as a result of keyword analysis, it is seen that there are four different primary groups related to mindfulness in teachers. The intersection point of all of them is the keyword mindfulness. The green group, colored in green in terms of being mainly related, is teachers, *emotional regulation*, *teacher stress*, *classroom climate*, and related concepts such as school, teacher, and associated concepts. These selected lexical groups show that the studies were shaped with a focus on teacher emotions and classroom climate. Mindfulness also positively affects teachers and classroom climate (Jennings & Greenberg, 2009). In parallel to this, in the section indicated in yellow, concepts related to mindfulness, such as *stress*, *well-being*, *anxiety*, and *resilience*, appear. These concepts are necessary components for mindfulness and psychological well-being. Previous studies have also stated that stress has been addressed and examined in depth in mindfulness studies conducted on teachers (Abenavoli et al., 2013; Roeser et al., 2013). When we look at the words in the red group, we see expressions related to organizational behavior, such as *burnout*, *emotional exhaustion*, and *emotional intelligence*. These concepts are generally taken from studies previously associated with mindfulness in the literature, which has proven to affect them positively (Emerson et al., 2017; Glomb et al., 2011). The purple and blue group includes the words positive *coping and mental health*, used together when mindfulness is mentioned. The keyword phrases show that mindfulness research on the teacher population has developed primarily based on relational surveys, especially the relationship with other concepts rather than the essence of mindfulness. This situation has sometimes been criticized in the literature. It has been argued that the relationship of mindfulness with different ideas is emphasized, and the importance of adapting mindfulness is ignored (Hsu, 2016; Titmuss, 2016; Walsh, 2016).

Consequently, this study provides an overview of the existing research on teacher mindfulness. It provides a detailed overview of how mindfulness research on the teacher population has evolved over the last two decades and which topics, countries, and authors have been prominent in this field. This research is vital because it presents crucial results of mindfulness on teachers. At a point where the importance of mindfulness in education is increasing (Sherretz, 2011) and it is stated that teachers are the most critical actors in the implementation of mindfulness in schools (Albrecht et al., 2012), this research can be an essential aid for researchers, especially in mindfulness studies related to teachers. It can also be a critical resource for researchers conducting mindfulness studies on teachers. This research is also essential as it can be an indicator for policymakers in their future practices related to mindfulness.

Although this research provides a broad perspective on teacher mindfulness studies, it is limited in that it needs to provide general information regarding the aims, theoretical frameworks, methods, and results of the studies. Although there are studies on mindfulness available, few such studies specifically focus on teachers. These studies can be conducted in the future. Since this research also uses only the studies in the WoS database, it can be expanded using different databases and other sources (congress and symposium proceedings, books, book chapters, etc.).

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Ethics statement: In this study, we declare that the rules stated in the "Higher Education Institutions Scientific Research and Publication Ethics Directive" are complied with and that we do not take any of the actions based on "Actions Against Scientific Research and Publication Ethics". At the same time, we declare that there is no conflict of interest between the authors, which all authors contribute to the study, and that all the responsibility belongs to the article authors in case of any ethical violations.

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